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ABSTRACT

The proceedings of a conference on stress and the organization, sponsored by the Business Institute in Gerontology, are presented. The materials address the following areas of concern related to the problem of stress, including: (1) physiology and psychological effects; (2) organization-induced stress and its manifestations; (3) mid-life transitions for men; (4) the dilemma of corporate women; and (5) exercise and physical fitness. The appendices contain transcripts of a panel discussion on corporate stress and a comment on personal stress management. (Author/HLM)

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STRESS AND THE ORGANIZATION

CG 014358

Edited by Richard H. Davis

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Foreword

Richard H. Davis, Ph.D.

This slender volume represents a new kind of publishing venture for the Andrus Gerontology Center. It is the result of collaboration between the Center's Development Office and the Publications Office, and comes from the conviction that the one-day conference on *Stress and the Organization* held at the Center in May, 1978, presented information that deserves wider dissemination than was possible through the seminars themselves.

Stress is a part of our lives. Sometimes it is beneficial, when it urges us to action toward goal accomplishment or to meet the necessities of combatting emergencies. Sometimes it is detrimental, when it is converted to physiological tensions and emotional anxieties that remain unresolved through acceptable pathways. We know that stress is an abrasive when it contributes to malfunction of the individual and resultant traumatic consequences.

Nowhere do we recognize stress more obviously than on the job. Here, the consequences of stress are felt most keenly. This is not to minimize the consequences of stress in personal life. Those consequences are equally dramatic. Stress in one area affects the other, and it is often difficult to say which stressful arena impacts the other more. Most often the decision would go to the area of work. Here is where we are put to the test on a very personal level—the level of our self-esteem as a valued and productive human being in society.

It is appropriate, therefore, that social scientists and corporate employees should come together to explore this topic. Thus, a conference on the subject was initiated by the Business Institute in Gerontology (B·I·G) in 1978. The conference was introductory in nature, intending only to recognize the presence of the issue as a concern. Mutual sensitizing was the object. These papers reflect the sense of the conference.

The papers published here represent both presentations and workshops. The presentations of the late Dr. Michael Misshauk, Associate Professor of Management in the U.S.C. School of Business Administration, and of Dr. James O'Toole, Assistant Professor of Management in the U.S.C. School of Business Administration, are missing. This is not in any way because of the quality of the papers, but because a malfunctioning audio system prohibited their reproduction. Dr. Misshauk spoke on the subject of "Stress and Ethical Compromise." He spoke from notes, and it is my sincere regret that his remarks are not available for this publication. Dr. O'Toole's subject was "Implications for the Future." He, too, spoke from an outline, so we have unfortunately lost his thought-provoking remarks.

The papers represent a range of concerns related to the subject of stress. James P. Henry, M.D., is a Professor of Physiology in the U.S.C. School of Medicine. Appropriately, his paper brings together the psychological and physiological effects of stress with an emphasis on the physiological. Milton G. Holmen, Ph.D., is a Professor of Management with the U.S.C. School of Business Administration. Often a consultant in business and industry, Dr. Holmen writes with authority on the causes and manifestations of stress on people within the business organization. Richard H. Davis, Ph.D., is an administrator and lecturer at the Andrus Gerontology Center. In recent years he has participated in numbers of workshops and worked in media projects concerning the male at mid-life. He deals with the stress-related issues of mid-life in his paper, which was initiated by his participation in the conference lab session devoted to stress and mid-life transitions.

Marion Morse Wood, Ph.D., is Assistant Professor of Marketing in the U.S.C. School of Business Administration. Dr. Wood's interest in the role of women in business has been demonstrated by a series of publications on the subject. In this book her concern turns to the topic of stress and the woman in the corporation. Like the papers of Wood and Davis, that of Robert A. Wiswell, Ph.D., is the result of one of the lab sessions held during the conference. Dr. Wiswell is now an exercise physiologist with the U.S.C. Physical Education Department, but at the time of the conference was an Assistant Professor of Physiology with the Leonard Davis School of Gerontology. Dr. Wiswell dealt with stress reduction through exercise in his lab session, and his paper reflects this discussion.

Transcriptions of other interesting material appear in the Appendix. First, some excerpts of remarks made by corporation representatives are presented for their relevancy and interest. Members of this discussion panel are Thomas M. Drucker, Manager of Management Development for the Xerox Corporation; Henry Gluck, business consultant and

former President of Monogram Industries; and Zmira Goodman, Vice-president of Colonial Penn Group, Inc.

Second, the comments of the Director of the Ethel Percy Andrus Gerontology Center and Dean of the Leonard Davis School of Gerontology, James E. Birren, Ph.D., are presented as appendix material. Dr. Birren, a psychologist, has long been interested in personal management of stress. His edited remarks presented here reflect both the research done in this area and his point of view about the issue.

This publication and the conference on *Stress and the Organization* were made possible by the Business Institute in Gerontology (B·I·G). This is a corporate program established in 1976 as part of an initial gift by the Xerox Corporation to the University of Southern California, dedicated to the advancement of knowledge and service through research and training in gerontological areas of particular interest to business and industry.

An appropriate activity of B·I·G is to bring together resources of the Andrus Gerontology Center and of the University of Southern California for occasional seminars on topics of interest to the business community. *Stress and the Organization* was the first of these conferences.

This report is an outgrowth of that conference. It has been underwritten by B·I·G in order to make it available to the interested general public as well as to the B·I·G membership.

Richard H. Davis, Ph.D.

Introduction

James E. Birren, Ph.D.

How important are the issues of gerontology? Obviously, they have assumed greater importance as more people are living longer. With the trends toward earlier retirement, we realize that one career may no longer be sufficient to last an entire life span; people may have three or four careers. The changing economic picture dictated by the presence of large numbers of older persons in our society is a related issue. In America the number of retired people is almost equal to the entire population of Canada. In California alone the number of retired people is greater than the entire population of the average country of Western Europe. With such enormous increases taking place, we are dealing with "nations" of older people.

Marketing has not caught up with this, a fact that sometimes puzzles me. I suspect that one reason is that business holds a stereotypical picture of being old; that is, old people are unhealthy, poor, lonely, and without potential for growth. However, I see the distribution of older people as bi-modal. First, there are the "down and outers," who, often for no reason of their own, drift downward in the population and become economically dependent. In contrast, there is a second group of individuals who are still growing, have good health, and are economically self-sufficient.

A few years ago college adolescents were referred to as a class—"they." Then we realized that within that class were athletes, scholars, drug takers, and drug pushers. We cannot categorize adolescents as "they." It is even less appropriate to designate old people as "they" because individuals in that age group are even more widely differentiated. That range of difference has not yet been examined or exploited, but I suspect that over the next ten years economic and marketing strategies will explore these variations in people in their later years.

What of those in business and industry who will be responding to these societal changes? Individuals here are confronting their own aging and the implications of this event for their business lives.

We have long been aware of the effects of stress on our physiology as well as on performance. So the initial concern, it seems, is to pause and consider individual aging within the business framework. The logical point for consideration is stress: its causes, manifestations, and consequences. That has been the focus of this brief conference.

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The Psychological and Physiological Effects of Stress

1

James P. Henry, M.D.

The theme of this paper is the generalization that stress equals aging. A consensus has arisen that much of what has been accepted philosophically as an ineluctable aging process is instead response to environmental stimulation. The more stress any mammal, even a mouse, experiences, the more rapidly he will age. Further, stress does not have to be physical; exposure to excessive heat or cold, bouts of starvation, or repeated pregnancies accelerates aging. The mere perception that other members of a social environment frustrate the subject's search for desiderata of food, drink, and shelter for himself and for those to whom he is attacked is sufficient to lead to stress-aging.

Mouse Studies

As reported in the book *Stress, Health, and the Social Environment* (Henry & Stephens, 1977), we have been studying for some time the mechanisms by which social circumstances lead to physical disease. Our work has focused on the stress responses of mice exposed to social interaction in population cages where there is plenty of room to move about, plenty of food and water, and adequate nesting material for the few dozen males and females present. We can show that a social hierarchy is formed and that it is possible to differentiate between a dominant and subordinates in a group of males of equal weight and age. In normally socialized animals, the females will develop communal nurseries and raise their young,

protecting them from intrusion by males. Even in so tiny a mammal with an evolutionarily simple brain, social organization has the same differentiation of the roles of sexes and of the old and the young, and has elements of the same social controls found in the most advanced human communities—a hierarchy with a dominance-subordination order.

Stress, Coronary Heart Disease, and Arteriosclerosis

In discussing the concept that stress equals aging, I will pursue the theme presented in the recently-published *Handbook of the Biology of Aging* (Finch & Hayflick, 1977) that arteriosclerotic thickening and deterioration of blood vessels so commonly seen in the aging animal are by no means an *inevitable* consequence of age. I will present evidence that the rate of arteriosclerosis can be accelerated or retarded by purely psychosocial means. I will focus on coronary heart disease because it is an expression of arteriosclerosis in the arteries feeding the heart and a present-day plague affecting the business organizations of contemporary technocracies.

The question we must ask is, "What psychophysiological mechanisms are common to mice, to monkeys, to primitive food-gatherers, and to the most urbanized men?" The term "stress" demands an immediate explanation, for the definition of the word is too broad. We would propose that the organism is programmed by an innate biogrammer to strive to define territory and to express attachment behavior. The satisfaction of attachment that bonds mother, father, and child leads to mutual relaxation. A threat to these bonds leads to rage and the fight-flight response, involving the release of catecholamines and intense sympathetic activity. The final loss of access to a highly valued person in one's life, such as an infant or a spouse, leads to the same sense of helplessness which affects the subordinate animal who has lost control. Depression follows. Characteristically, depression in both animal and man is expressed by a flexed, immobile posture, a decline in sex hormones, and a rise in adrenal-cortical activity. Man, however, may not consciously experience the chronically-aroused emotions of anger, fear, or depression. Sifneos, Apfel-Savitz, and Frankel (1977) have called this lack of awareness "alexithymia," implying a denial of feelings. They make the point that a lack of feelings does not imply a lack of emotions, with nervous and hormonal accompaniments. Thus, in the absence of feelings these unconscious emotions can lead to

the progressive vascular damage of arteriosclerosis. We identify stress with the physiological consequences of emotions aroused by various types of threat and frustration.

Human Studies: Roseto and the Japanese-Americans

The human study that first drew serious attention to the possibility that psychosocial factors may play a part in coronary heart disease was in 1966 when Bruhn and Wolf and other co-workers compared the incidence of coronary heart disease in Roseto, Pennsylvania, with that in nearby Bangor. During the 1940's to the 1960's, the closely-knit Italian-American community of Roseto provided a mutually supportive structure which protected its members from chronic arousal of the emotions of anger and depression. There were religious observances; in general, a relaxed, comradely atmosphere prevailed among the inhabitants of this small town. Bruhn and Wolf observed that the incidence of heart attacks was one-half of that in Bangor, which was a more ethnically-diverse small town. However, a current report bringing the picture up to date states that individualistic values have progressively replaced group concerns in Roseto during the subsequent decades, with a consequent gradual deterioration of family and community ties (Bruhn & Wolf, 1978). This change has been accompanied by a change in mortality rate. According to the report, the death rate for men in Roseto has now reached the rate for men in Bangor—which, in turn, is at the level of that for the United States at large.

Marmot and Syme (1976) have published a still more detailed study of a similar situation. They observed 3800 Japanese-American men living in the San Francisco Bay area, classifying them according to cultural upbringing and to the extent they were disassociated from the Japanese ethnic group. They found a five-fold difference in the incidence of coronary heart disease between the most acculturated and the least acculturated groups. This variation was not explained by differences in smoking, diet, or blood pressure.

The conclusions are intriguing from the viewpoint of stress as it occurs in organizations. Japan is a highly competitive, industrialized country, but it appears that the closely-knit Japanese enjoy a mutual support system which protects them against the highly socially-stimulating situations of the more individualistic American urbanized society. These social assets, transferred to sub-groups of Japanese-Americans who held on to the Japanese culture, protected them against the development of coronary arteriosclerosis.

Type A versus Type B Personality

The remarkable study of Type A and Type B personalities by Friedman and Rosenman (1974) differentiates the Type A as robust, vigorous individuals with brisk body movements, explosive speech, and a habit of finishing or condensing the speech of others. The authors suggest that persons who think, perform, and communicate aggressively are rewarded by our society. They describe the Type A personality as advancing to overcome challenge, but with a sense of insecurity that drives him to unrealistic attempts to dominate in all situations. Ambitious, the Type A's earn honors and go on from one achievement to another. They push themselves hard, suppressing feelings of fatigue. These individuals work close to the limits of endurance—but at a price, for when defeated in spite of their best efforts the loss of control is more arousing to their nervous and hormonal systems. They are then vulnerable to episodes of "helpless," depressive emotions with an adrenal-cortical hormonal response; yet as they expend their aggressive efforts, they also experience an increase of the adrenal medulla's catecholamines, noradrenaline, and adrenaline. Glass (1977) proposes that a cycling between the physiological responses to rage and despair may accelerate arteriosclerosis. If he is right, the mechanism begins to explain why stress equals aging.

Biochemistry of Stressed Dominant Mice and Type A Men

When challenged, mice who experience competitive social interaction show the same increased noradrenaline as Type A men. On the other hand, recently-subordinated mice show an increased adrenal-cortical response similar to that found in some Type B men. Males left to work out a social hierarchy in a population cage containing females will show biochemical differences discriminating the dominant from the subordinates as time goes by. At first, the plasma corticosterone of mice who had lost control and were subordinated rose significantly higher than that of the dominant, who showed no change. On the other hand, the noradrenaline-synthesizing enzyme in the adrenal medulla of the dominant was much higher than in the subordinates. These biochemical differences are the same as those differentiating the dominant human from his recently-subordinated counterpart who accepts the new lower position in the social order imposed on him with a measure of helplessness and depression.

Arteriosclerosis in Chronically Stressed Mice

One crucial question from the point of view of the proposition that stress equals aging is whether animals whose nervous and hormonal mechanisms are chronically aroused by prolonged social conflict during the months will develop arteriosclerosis at an accelerated pace. We found that animals kept in isolation or in small groups of mutually-attached siblings are protected and develop this condition very slowly. To study this question we chose socially-inept mice raised in isolation until maturity at four months so we could observe their social behavior in the milieu of a population cage. Work with monkeys had already shown the disastrous lack of social skills suffered by mammals raised without opportunity to interact with parents or peers. Such monkeys cannot survive in the wild. Mice are similarly affected; the chronic emotional arousal of these formerly socially-deprived members of a population cage is not only betrayed by their posture, as they sit raised defensively on their haunches, but also by the increased levels of adrenaline-synthesizing enzyme in the adrenals, plasma renin-angiotensin output, and plasma corticosterone.

Microscopic sections show that the coronary vascular bed is often grossly damaged, as are the kidneys. The blood urea is elevated, and many suffer from chronic nephritis. This is the consequence of widespread arteriosclerosis, which leads to a shortened life span. Instead of living more than two years, year-old mice who have had only eight months of social stress are prematurely aged and more than one-third of the population dead.

Religious Communities as Protective Social Systems

The work of Kunin and McCormack (1968) with 3300 nuns and that of Caffery (1966) with 1300 monks shows the health advantages enjoyed by these groups. Both receive strong social support and live in an environment conducive to eluding the basic emotions of anger, anxiety, and despair by following ancient traditions, avoiding conflicts, and subordinating individual needs to religious demands. Kunin showed that nuns had an incidence of fewer urinary tract infections and lower blood pressures than women controls living a secular life. Caffery contrasted Benedictine monks living quietly behind monastery walls with Benedictine priests leading an active, socially-demanding life at a highly competitive tempo, caring for parishes and schools. The priests suffered more than

twice as many myocardial infarcts, even though they ate the same food and sat at the same tables as the monks.

Conclusions

There is growing evidence that emotional stress resulting from intense individualistic competition for territory and hierarchic control generates arteriosclerosis. Social support derived from sustained, disciplined teamwork marked by subordination of individual needs and strong mutual attachments between team members (as in military or religious groups with high morale) is highly protective. The physiological mechanisms appear to involve the avoidance of chronic anger, anxiety, and depression, and the prevalence of pleasant relaxation and euphoria comes from a perception of being needed and appreciated by one's social system.

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2 Causes and Manifestations of Organizational Stress

Milton G. Holmen, Ph.D.

For the purposes of this paper I will use Hans Selye's definition of stress, "The body's non-specific response to any demand placed on it, whether that demand is pleasant or not" (Cherry, 1978, p. 60). With respect to stress, he says, "Our aim shouldn't be to completely avoid stress, which at any rate would be impossible, but to learn how to recognize our typical response to stress and then try to modulate our lives in accordance with it" (Cherry, 1978, p. 60). Selye points out that many people seek stress and thrive on it. At the other end of the continuum are people who prefer a more tranquil environment.

In this paper I will focus on organization-induced stress and stress on the organization as it causes stress on members of the organization. I will discuss non-organization-induced stress only as it relates to or interacts with organization-induced stress. We all know that both men and women are subject to stress; for ease of exposition I will use male pronouns.

Kinds of Stress

There is a presumption in most discussions of stress that stress is bad—all bad. Some stress *is* bad. Heavy, continued stress is always bad, but some stress seems necessary for our survival. Not responding to demands from the environment can lead to death. People seek out stress in varying amounts, duration, and frequency.

We engage in physical sports, from table tennis to football and sky diving. We climb the dangerous mountain, not because it is there, but because climbing it reaffirms who we are.

Selye, who gave us the word *stress* 40 years ago, has recently given us a new word: *eustress*, meaning "good stress" (Cherry, 1978). Whether stress is good or not does not depend on the stressor (the demand causing stress), but on the person who is encountering the demands that result in stress. Selye would be stressed, he says, by lying on the beach for several days, but is not stressed by a heavy teaching, research, and speaking schedule. I would be stressed by his work schedule, but seek out relief from my work schedule in the demands of sailboat racing and ocean swimming.

Since we have a generalized word for stress and another word for good stress, we need a word for bad stress or dysfunctional response to demands of the environment. Until yesterday we did not have one. However, yesterday I invented the word *malstress* to identify the dysfunctional or bad response to stress.

Causes of Stress

It is the *continuing* nature of demands that is the hallmark of malstress. When the body is faced with a threat, the sympathetic nervous system mobilizes the body to "flight or fight." Energy is mobilized to deal with the threat or demand. When the threat subsides, the parasympathetic nervous system brings the system back into balance. Under continuing demands, however, the body does not get back into balance, and the imbalance—the malstress—leads to deterioration of organs and functions of the body as well as to dysfunctional behavior in relation to the environment. There are wide individual differences in the amount of stress people can stand at any one time; all of us suffer from a continuation of what was tolerable in a short time period.

Causes of malstress, both individual and organization, always seem related to role. If an organization is not well-adapted to its environment—if its role is wrong for its objectives—it is under stress. If an individual experiences role conflict or role ambiguity, stress will result. The "organization man" cannot get out of his organization as readily as a football player gets out of a game. No one can count on having the whistle blow after sixty minutes, sixty days, or even sixty months of active play in an organization. The conditions in an organization generally change slowly, and the relationship between a person and the organization tend to change

slowly. Mastress, once experienced in an organization, tends to drag on endlessly. Problems in an organization do not wait to arrive until we are ready for them, nor do they go away on any schedule.

Role Conflict and Ambiguity

An individual's life can be seen as a set of roles which he plays in each of the sub-parts of his environment. The same person may be a father and husband at home (two roles in one environment), sales manager in his company, program chairman at the Rotary Club, and a member of the finance committee at his church. There may be minor conflicts between these roles, especially in their demands for his time, energy, and attention. Since the roles are played in different environments, however, role ambiguity is almost nonexistent, and role conflict minimal.

By contrast, when a person has more than one role in the same organization, there is a greater opportunity for role conflict or ambiguity. The sales manager of the company is the boss of the sales force and also may be a vice-president of the company, a member of the long-range planning committee, and a candidate for company presidency. He may be aware of when he is changing roles, or he may not; others are even less likely to be aware of which role he is taking at a specific time.

This role ambiguity is important, because the person may be taking action in one role and getting responses from someone who perceives him in another. Most of us see our self as an integrated person who successfully fills several compatible or consistent roles. Others are more likely to see us only in terms of the role relationship we have with them. Therefore, we tend to deal with a response or action from another as directed to our self rather than to one of our roles, while the responder is more likely to be responding to our role than to our self. This is similar to the problem of non-parallel transactions in transactional analysis, and has the same disastrous results.

Organization Change and Stress

To get back to role theory: as long as each person is comfortable in his organizational role, all is well. But changes in or to an organization may place people in roles they can not play without getting the wrong level or kind of stress. The striver in a static or declining company is threatened by lack of growth opportunity and

bored because his job doesn't challenge him. He may get in trouble either in or outside of the organization by looking for more challenge. The person in the middle of the stress continuum is pushed from his moderate-stress job to one with too much or too little stress. The hourly worker may become a foreman; the inside salesperson may be moved outside where the demands are greater and the reinforcers farther apart.

Organizational malstress can be considered an abstraction with no concrete reality. After all, the thinking, feeling, needing part of an organization is its people. But there is a concrete reality to organizations, as those of us who live in them know. They, like people, can find themselves playing dysfunctional roles because of changes in the environment or themselves.

The way in which people are interconnected in an organization depends primarily on three things—tasks, technology, and people. As these change, the organizational structures and processes must change. Further, the complexity of decisions to be made and the uncertainty in the organization's environment set limits on successful organizational forms.

Where complexity of decisions is low and uncertainty in the environment is also low, a simple line structure is most effective and efficient. Where decisions are not complex but the environment is uncertain, a staff must be added to the line, giving it a line-and-staff structure. Decisions are made mostly by line managers, but based in part on information and ideas from the staff people who are facing the uncertainty.

When decisions to be made are complex and the environment is stable, bureaucracies abound. This is the traditional format for peacetime government organizations and for public utilities and other protected high-technology or high-complexity organizations. Where decisions are complex and the environment is uncertain, a matrix or project organization works best, as it provides maximum flexibility in allocating resources to meet changing demands. This structure tends to move stress from low in the organization, where the people now have more control over their work, to the top of the organization, where less control may make management nervous about what is going on.

Note that organizations almost never move from complex to simple decisions. Nor do they move very rapidly from an uncertain to a certain environment. Movement into uncertainty can be sudden, as it was recently for the oil companies of the world. A company making simple decisions may be forced into complex ones

in order to survive. Slide rule manufacturers of a few years ago are either dead or in the calculator and computer business, which is much more complex. Cash register companies must make computer terminals against a whole new group of competitors, and thereby are forced from simple line structures to matrix or project forms. The malstress in these organizations is absorbed by the people, who are subject to demands of new kinds, and considerable malstress is likely for them.

Organizations seldom find out about environmental or technical changes soon enough to adapt comfortably. They try to put new roles on people, who then have two problems: they are unsuited psychologically or physiologically for the roles, and they have not seen anyone play the roles well. Organizations in this position should seriously consider major personnel changes to bring in people who have played elsewhere the roles new to the company. Such persons could both get their own jobs done and also be role models for people already in the organization.

Organization-Induced Malstress

To understand organization-induced malstress, we need to look at three different kinds or groups of people. Let's start at the bottom. In most organizations, the bottom 50 to 90 percent of the employees have little control over their jobs; lack of challenge may lead to boredom. At the same time, malstress may result from high output requirements, dangerous equipment or materials, and serving multiple bosses (the secretary's lament). Malstress here is most often dealt with by leaving the organization, actually or symbolically. People may leave permanently, or be absent when the stress is intolerable. They may escape mentally by daydreaming even when their bodies are present. Labor unions and worker councils are created to protect the workers from management decisions that adversely affect them. In the case of the labor union an adversary relationship exists between the company and the workers. Workers' councils, established by law in many European countries, place workers on the boards of directors so the workers' views, needs, and problems are represented there.

At the other extreme, some 2 to 10 percent of the people have or are striving for top management jobs. The steretype is the young M.B.A. who expects to be at least a vice president within ten years after joining the company. He has a promotion track or ladder in his mind, and continuously compares his progress with his schedule.

One must run very hard here just to keep up. High expectations and strong competition for each rung of the ladder lead to high stress. This ladder attracts people who thrive on stress, and is very hard on those (the large majority) who do not win the race.

In the middle are the 10 to 60 percent of an organization's people who can influence their own jobs and whose expectations for upward mobility are relatively modest: technical people such as computer programmers and engineers, outside sales people, administrative people such as accountants and personnel staffs, and many professionals and paraprofessionals. Stress is generally less for these people, because they have considerable control over job activities and outputs and a less competitive organizational atmosphere. Many of these identify more with their profession than with the company, thus lessening their dependence on it and moderating their stress.

Manifestations of Malstress

The presence of malstress in a person is easiest to detect if we have known that person when not under malstress. The key element to look for is change, particularly dysfunctional change. The kinds of changes to look for (or behaviors in persons we have just met) are those which respond to the environment in ways which do not cope effectively with it. These include absences and tardiness at work; increased use of alcohol, drugs, or tobacco; moodiness and short temper; changes in amount and kind of sociability; and increased sick leave, illness, or accident-proneness. An industrial accident is very often the way a person converts a socially-unacceptable disability, malstress, into a socially-acceptable one, an injury. This gets him out of the environment without having to admit, even to himself, that he couldn't cope with it.

Other indicators are lack of realistic objectives and plans, seeking compliments and praise (to offset low esteem), discussing a worrisome topic with too many people or the wrong people, delays in meeting schedules, or drops in productivity (especially in quality of output). Changes in patterns of leave-taking, such as taking a vacation one day at a time instead of once or twice a year, may mean that there are days when the person can't face his job or is recovering from last night's dysfunctional attempt to temporarily put it out of his mind. An increased security motivation or any other change in risk-taking such as increased gambling are also clues.

Not all of these behaviors mean the person is under malstress, but they are indicators that stress should be considered. Others may observe these symptoms, and we can also see them in ourselves, along with some additional examples such as becoming suddenly forgetful or having unpleasant dreams (especially repetitive or continuing dreams with threatening themes). Some responses to malstress are cyclical or cumulative, leaving us less able to deal with the next set of demands. A hangover leaves us less able to deal with the problems of the day. A morning of coffee may give us an afternoon of jitters even without external stressors present. Overeating is a frequent response, which leaves us less able to respond to stressors.

Malstress Reduction

Top managements of organizations can take some actions to reduce organization-induced malstress. Realistic career paths should be designed for those attracted to stressful work environments so the number of failures can be reduced. Regular career counseling of people "on the make" in the company can help them to assess the effectiveness of their behaviors and estimate their opportunities for possible future jobs.

For people near the bottom of the organization, job enrichment and enlargement has been suggested, and has often succeeded. Organization redesign may be more basic, giving workers and groups of workers more authority to change their structure, work processes, and job assignments. A large manufacturer of small electrical appliances recently got a 20 percent increase in productivity by having workers and foremen participate in decisions about how to integrate a new production process into the plant.

Perhaps the most fundamental suggestion I can make is that companies undertake action research programs in their organizations to optimize both productivity and stress for people at all levels in the organization. The action research process would involve getting a part-time task force in the organization or one in each major part of the organization and providing them with an action research consultant or facilitator and such technical help as needed to recommend actions to reduce the malstress and increase the eustress and productivity in the company. This can lead to better jobs in a more supportive organizational environment.

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3 Male Mid-Life Transitions And Stress

Richard H. Davis, Ph.D.

It is a rare middle-aged male today who is not at some level confronting a crisis. It almost seems he is obligated to do so; the times encourage such a confrontation. For some time now it has been respectable to investigate the issues of old age; before that it seemed that the study of human development emphasized only birth to age 21. Perhaps it is because those doing most of the investigating have themselves been somewhere between age 21 and 65 that so little attention has been given to this broad span of the middle years—it is painful to be introspective. How much easier it is to look analytically and dispassionately at those younger and older than oneself!

As people struggle, through protest, to escape society's stereotyping and to begin lives more congruent with their own images of self, the middle-aged man is sitting up and taking notice: "The world around me and everybody in it is changing; my wife is 'liberated;' the kids are off doing God knows what; my parents are getting older and older . . . and I don't know for sure how to relate to all these people. I think I'm changing too . . . and it frightens me."

The Fragile American Male

We may try to ignore the statistics, but they are there in cold reality. American males have a possible life span of 68.9 years; females can count on 76.7 years. The rate of cardiovascular incidents

for males increases dramatically after age 30, as do the rates for suicides, entry into mental health facilities, alcoholism, divorce, death from cancer, respiratory disease, accidents, and acts of violence.

Surely these statistics don't reflect the image of the Marlboro man. Can we who grew up modeling after John Wayne truly be described by statistics like this? We may not like the answer, but it is affirmative.

It is possible that such fragility reflects, in addition to the physiological phenomena of aging, a response to conditions of our society. This paper will focus on the male—partly because we are suddenly aware of some group behavior here that impacts society, and partly because as a now bonafide middle-aged male I am deeply engrossed in such an exploration on a personal level. We realize, however, that women have been confronting their own mid-life crises and have been working through problems and trying new solutions through the social permissiveness of the women's lib movement.

Women at mid-life have long been evaluated through the simplistic rationale of the menopause. All behavior changes and emotional conflicts were easily explained as being due to hormonal change. Women themselves accepted the fact that if they just got through the "change" they would be all right. I think today we can talk better about women at mid-life in terms of their needs for role expansion and being their own persons.

We haven't long been able to discuss males in the same way. After all, there has not been any easily discernible physiological change in male body function at a given age that would be a handy explanation for behavior change. We hear about a male climacteric, but there is more to this "mid-life crisis" than a physiological shift. I don't think it is either complex or mysterious. The more I read and investigate, the more logical and expected it seems that men at mid-life should exhibit symptoms related to being in a transition stage of the life cycles.

Mid-Life: The "Sandwich Generation"

What are the age boundaries of mid-life? Obviously being middle aged is somewhere between being young and old. We know that 15 is young and 80 is old. But what is 30? 40? 50? There comes a time for each man when he begins to suspect that men ten years his junior are not regarding him as "one of them." He notices that he is more often addressed as "sir," and for some reason this

bothers him. This happens somewhere around (but not too long after) the time he finds that he doesn't fit as well as he used to into tapered shirts and Levis—the conclusion is reached that the collegiate department is not the best place for him to shop.

Numbers of studies, however, indicate that the fourth decade can be taken—somewhat roughly, to be sure—as the period of mid-life transition, while the whole of middle age may span from age 40 through 60. For the purposes of this paper the years between 40 and 55 will be utilized in the discussion of stress and the middle-aged male.

The Dream vs. Reality

Those who are in mid-life today were born in the 1920's and 30's and therefore share some common experiences. Childhood was experienced against a background of shifting economics and the depression; adolescence was strongly influenced by World War II, with those born earlier serving in the armed forces while the younger members of this generation waited for the next conflict. Young adulthood was spent by many acquiring an education as a G.I. benefit, or more easily through the new affluence of a parent generation that had either struggled to acquire an education or was denied it altogether. The economic boom following the war made jobs plentiful, and the future glowed with great opportunity.

There was almost a formula for how to make it all happen: get the degree, the mate, the job; then get the house (for some, with no down payment) which could be traded up time and again as one climbed in the company structure. Furnish the house with the appropriate number of children, automobiles (one, a station wagon), television sets, and other symbols of the good life.

All this was feasible, and so it was done. The formula was supposed to equal by varying definitions a high level of "life satisfaction." Has it? For many the answer has to be qualified.

Hard Work Pays Off—Doesn't It?

Being successful is a test of manhood, or so we have believed. Nancy Mayer (1978) calls today's middle-aged males "The Handicapped Generation." The two major handicaps, according to Mayer, are the "*machismo*" philosophy and the Horatio Alger syndrome—both myths.

Let us first consider man and his work. The Horatio Alger myth led us to strive mightily for some mystical power place where

we stood strong and towering over lesser men. Mayer says that around mid-life men discover that the possibilities for job advancement become fewer and the rewards for continued striving evaporate. You can buy bigger and better symbols—if you climb higher. But how high can you climb?

Mayer says:

> Statistics show that only a handful of highly educated men will continue to move up the ladder after forty, while the majority will merely hold onto whatever rung they have already reached. And some, usually the least educated, will start to slip down. This is the reality in America today . . . what this means for most men is no more pay increases or promotions after forty. (p. 54)

According to Mayer, only 1 percent of American workers reach upper management positions, and only 5 percent reach middle management positions. Add to this the decline in job security which is a reversal of that condition that prevailed for about two decades after the war, and it is easy to understand how the dream slips away to be replaced by some grim realities.

Occupation for most individuals is central to their definition of self. It is "one of the primary factors—determining his income, his prestige, and his place in society." (Levinson, 1978, p. 45). It is the means whereby the dreams of youth are realized.

This work ethic syndrome encourages a certain guilty uneasiness if the briefcase doesn't come home with us each evening. We are uncomfortable with leisure; Sundays and holidays are depressing.

Peter Chew, in his excellent review of mid-life issues (*The Inner World of the Middle Aged Man*, 1976), devotes a chapter aptly titled "Fifty-five and Frightened" to a study of corporate politics. He writes " . . . the words 'contacts' and 'know who' have all but replaced 'merit' and 'know how' among those scrambling on the corporate ladder." He suggests further on that " . . . justice doesn't always triumph, but power *always* does." Playing office politics becomes more desperate after age 40. Mayer suggests that what it really takes to get ahead in the organizational structure is in opposition to what we believed at the beginning. To get ahead today, she says, a man " . . . must be self-centered, manipulative, and totally committed to his career—sparing almost no time for his family." (p. 62).

Work for most men brings into play those traits valued for

their masculinity, especially competitiveness and toughness. In fact, the "pledging" period with many corporations is designed to test these traits and to foster their growth. The higher a man may rise in the executive ranks, the tougher he has to prove himself.

Many careers are devalued simply because they are perceived as not requiring the necessary degree of toughness; they are less "masculine." Studies often show that, income notwithstanding, certain careers are rejected on this basis. Academic work, charitable and social services, music, and all creative-artistic work are examples of such careers.

The Lonely Place

Standing at the mid point of life, looking back and looking ahead, one begins to feel very lonely.

William Bridges, who has left the academic world to direct his own "growth center" which he has aptly named "Passageways," writes and lectures about transitions in life, and especially in midlife. In a manuscript which is in progress (1978) he describes his feelings at age 44:

> I have recently and reluctantly come to the conclusion (to put it simply) that I am lost. Not just unsure that this is the right trail, but off any trail entirely. I find myself, figuratively, looking for footprints, broken twigs, any sign that someone has been over this ground ahead of me. (p. 3)

There is this sense of being in limbo when we are in a state of transition. In some part of our mind we recognize that we have completed something significant. There is a hazy awareness that we have passed over some line and that we can't go back. Regardless of our attempts at dieting, we'd better stay out of the collegiate shop. No matter that we make fumbling attempts at replaying the dialogues of childhood: that little girl is a woman, and the boy once in braces is now a man. Irreversible.

We may begin to sort out what has passed. "How did I get from there to here?" "What was the path from trainee to department head?" "What happened to that coed during twenty-five years to transform her into her mother?"

And, "Who have I become?"

In the midst of all this, time is not standing still. It carries us

along into uncharted territory. The map we were given long ago doesn't help us now.

Men do not often talk with one another about these things. If anyone else stands lost beside us, we don't know it. Older men must have forgotten, or we don't listen to them. The stress increases in proportion to unresolved issues from the past, the pressures of the present, and the uncertainties of the future.

Levinson (1978) explains it:

> Adults hope that life begins at 40—but the great anxiety is that it ends there. The result of this pervasive dread about middle age is almost complete silence about the experience of being adult. The concrete character of adult life is one of the best kept secrets in our society, and probably in human history generally. (p. ix)

Mayer (1978) says that nobody ever warned today's middle-aged men " . . . that they would still be growing up at forty, and that this coming of age would force them to face their feelings and explore their inner self." (p. 67)

Snips and Snails and Puppydog Tails

As we all know, little boys are made from this recipe. It is what makes males tough. And whoever heard of a female being "full of piss and vinegar?" These are two other ingredients of masculinity. We can succeed to the extent that we are "men of iron" and "solid as the rock of Gibraltar." We got the message early that it was good to be "all boy" and grow into a "man's man."

Mayer (1978) relates this heritage of manhood to the teaching of role expectations in our business life:

> A real man must be aggressive and tough, according to the mystique, because male superiority insists that he compete, perform, achieve—and win. Not just once, but repeatedly. Based on values that obtained in the frontier days, this *macho* style has in recent years been transferred to the sports arena and transformed by athletic metaphors, but the element of combat is still essential: How, after all, can a man prove he is the toughest gun in town unless he is always ready to challenge his competitors, defeat his opponents, and destroy his enemies? (p. 67)

The commandment is to keep cool, to be invulnerable to attack, and to be unruffled when under attack. Levinson (1978) describes masculinity as a multi-faceted pattern with a unifying theme of concern with doing, making, and having. (p. 253). Depending upon the task, these active verbs require strength, endurance, sexual virility, and athletic prowess. The body is the vehicle, but if the arena of competition is the mind, then thought becomes the weapon.

This is a stereotypical description, to be sure, and we all know that man is a mix of what may be called these masculine traits and those that are thought of as feminine: that is, being sensitive, creative, accommodating, nurturing, and caring.

Levinson explains that the integration of the masculine and feminine is difficult in early adulthood, although a partial integration is worked out in the late teens and early twenties; it is not until the mid-life transition that the next major opportunity to reintegrate the masculine/feminine polarity comes about.

At mid-life, "keeping cool" in the macho sense becomes more difficult to sustain. Mayer calls it " . . . a young man's style, a style that ultimately becomes exhausting and futile." (p. 68).

This situation adds further to the stress accumulations of mid-life. We are members of a mechanistic society which regards man as a commodity. In reality, we each function in our work roles to assist in the realization of the goals of the organization. For some, this is profit; for others, a standard of service. But for all there is a measurable product. We are valued in direct ratio to our degree of productivity. Very few in the public market place are working in a sheltered workshop. Individual success, not to mention basic survival, depends on more than brains, talents, and skills. It depends on the ability to fight and win through understanding and exploiting the system in the most beneficial way. This activity calls for the exercise of those "masculine" traits described above.

The kind of man called for by this system is defined by Marc Fasteau (1975) as the "male machine," an armor-plated being designed to work in competitive framework where winning is all that counts.

I think one can forgive fragile man for programming himself into such a machine. Remember, society teaches that man is a commodity, and as such he depreciates if he demonstrates any flaws which may reduce his value as a producer. Since the human is an imperfect being, the development of a well-functioning facade is mandatory, and if it weakens with age the price may be great. And

if energies are expended to keep hard-won strength and power positions and to maintain facades, the price may still be great.

Somehow at mid-life all these conflicts coming out of those distorted roles of what it is to be a man can no longer be ignored.

The Road Ahead

It seems that a major task for each individual at mid-life is not only take stock of the past, but to accept it for what it has been. We are at any given time the sum total of all our experiences. It is not so important whether we label this as good or bad, but that we recognize the truth of our life as we best understand it and let the awareness of our "selfness" determine the future.

Some information can always help, in any assessment. Levinson views the middle adulthood in three perspectives: the changes in biological and psychological functioning, the sequence of generations, and the evolutions of careers and enterprises. The understanding of these individual issues is necessary for a successful transition.

Mayer characterizes mid-life as a time of metamorphosis. At this point the boy/man becomes the man: a crisis which demands change in beliefs, attitudes, and subsequently, behaviors. We think of a "crisis" as an external event, an emergency moving in from the outside. In understanding "crisis" in a developmental sequence (as in life transitions), it is a "decisive moment." Rather than an emergency, William Bridges (1978) refers to crisis as a "difficult opportunity," or still better, as an "opportune difficulty." According to Mayer, this opportunity allows for the revision of definitions of what it means to be a male, an adult, and a human being. "It is the time for a man to change what he believes about himself from negative and self-denying to positive and self-affirming. It is a time for him to redefine the facts of life and enlarge his sense of possibilities." (p. 237).

The conventional male role is a stressful one, and stress, as we know, is a killer. Therefore, the middle-aged male needs to define for himself a new concept of masculinity, and to find a new definition of health and sickness as well.

Mayer writes:

> Defining a man primarily as a producer and an achiever leads to a sickening way of life. Ironically, though, being manly also makes it difficult for a man to recognize when

> he is sick. Trained to ignore his feelings in order to pursue his goals, he is less sensitive than women to inner signals that tell him that all is not well. Tuning out these inner distress signals until they can no longer be ignored, he is unlikely to heed the signals of his own sickness until the lethal aspects of his manly way of life have brought him to the point of total collapse. (p. 238)

We tend to endow others with strength and our selves with weakness. We create for our selves a sort of self-fulfilling prophecy. At mid-life a concept of adulthood is possible which allows for new prophecies to be made.

Roger Gould (1978) says that when we are in our forties we become very much aware of the pressure of time and we come to a recognition that whatever we must do must be done now. There is no longer an illusion of immortality.

Earlier I quoted from William Bridges' work in progress as he shared his feelings of being lost in an uncharted land. This transition place, this crisis time, is seen by him as enormously important. I think his description is significant:

> Meanwhile, this is a fascinating place when you don't let it frighten you. I find myself open to new sorts of knowing and seeing and understanding. My dreams spin out answers to questions I haven't learned to ask yet, playing back the theme of my lostness in images that astonish me. The incidental details of everyday life tug at the cuffs of my attention, and when I look, I am often amazed. Paradoxically this gap in time that is bereft of conventional meanings is full of some other kind of significance. The new kind is shadowy and intermittent, so that it often seems unreal in my memory of it. But in the moment it is very real. (p. 50)

The road ahead may be shadowy or dark, but there is light at the end.

Options and Optimism

The major mid-life transition does not occur with every middle-aged male at age 45, or 48 or maybe even at age 50. Varying circumstances influence the timing. But somewhere between age 40 and 55 there is a crossover. Gould calls it a stepping down "from

the intense heat of the mid-life period to a cooled down, post mid-life attitude." He says we reach a point where we can affirm ourselves, announce to the world *"I am me!"* He writes, "this becomes our acknowledged core, around which we center the rest of our lives." (p. 311)

What we are talking about in this whole issue of mid-life change is growth. Change equals growth. Perhaps what is difficult is to recognize that learning and growing are supposed to happen—and to continue to happen—throughout life. That question often spoken half in jest and half in earnest, "What am I going to be when I grow up?" can finally be answered. We need to look at the question more broadly, because the answer is never going to be as simple as "butcher," "baker," or "candlestick maker."

The middle-aged man loses his illusions and finds truth for himself. Too often a loss of illusions results in cynicism. Gould believes that in finding truth one becomes free "to develop more flexible values and to admire others in a more genuine, less idealizing way." (p. 193)

Sometimes this results in some dramatic change: divorce, occupation shifts, different life styles, resurgence of creativity. These are external, observable changes.

Internal changes for the middle-aged male also result. Gould says these are in the areas of social outlook, personal values, what he wants to give, and what he wants to get. These changes may be very obvious or subtle. Either way, they give different meaning to life.

Summing Up Realities about Work and the Middle-aged Male

One of the reasons the male finds the arena of his work the place of greatest stress is that it is the most important activity for proving himself. Fasteau (1975) identifies work as the area of life where "masculine" traits are thought to fit best. It is the proving ground for masculinity, as was the school playground in childhood. Further, our society's value systems identify work as the essential determinant of moral worth. Work plays a key role in self-actualization. The most obvious truth is that work is essential for economic reward. Because of all this, we have come to place an extraordinary value on work and upon our roles as workers.

Gould believes that work is man's attempt to be invulnerable. Our childhood fantasies about being grown-up included the power gained through occupation that we felt our parents and other adults

possessed. After all, through their work teachers and all other supervising people we came into contact with exercised control over us. The money our parents earned gave them power over us as well as the environment in which we lived. Gould says that as we matured we pursued careers with enthusiasm, willingly accepting the mythology of the work world: that a man can become invincible with power, money, and status.

Work gives us ego gratification. Every commendation, bonus, and promotion affirms our value. With each promotion we acquire higher rank, and with higher rank we feel less vulnerable. Gould says that the implication of all this is that when we do "get there" we'll be totally invulnerable.

At some point during mid-life, the other parts of our life become more visible to us. The children suddenly seem to have turned into young adults. We fear we have lost them before we have had the chance to parent the way we want to, and there is the disturbing suspicion that we don't even know them. There is a recognition of varying degrees of alienation from the marriage partner, and a feeling of desperation about this primary relationship. These events cause us to look at ourselves and our work. Gould describes this:

> . . . no man in his forties can kid himself that work success will make him invulnerable to sickness, to personal problems, to death, alcoholism, or neurosis. There is too much evidence to the contrary all around him. In essence, men sell their souls for a feeling of triumph with so little lasting power that they constantly have to sell more of themselves to buy more of it. When the craziness is finally exposed, they feel cheated. (p. 238)

But, Gould says, we can accept this insight and begin to dismantle the myth that work success will protect us from hurt—and thus we can find whatever intrinsic meaning our work has for us as persons. Gould feels that if a growth ideology pervaded industry, the whole mid-life work problem might be prevented. Instead of regarding the man who is sorting through the mid-life issues as one who has reached a plateau and is floundering to the detriment of the company, an enlightened management might recognize the potential accompanying change. If the male at midlife could be identified as one who will be enhanced through personal growth at this time, he might be regarded thus:

> When he transforms his view of the meaning of life, it will give him a renewed interest in his work, because he will view it from a new perspective. His growth will translate into the growth of the company, because only a man of his age and experience can provide the necessary new insights. (p. 326)

Choice and Change

The individual can continue to agonize and wring his hands, and eventually stagnate. Or he can review his options and exercise those most beneficial to him. Mayer lists several guidelines for growth and change. They will not apply universally, since every man's transition experience is unique to him in its severity and timing. But since every man does have the experience of stress during the middle years, these guidelines may be helpful:

1. *Take the mid-life crisis seriously.* It is not unmanly to be confused or neurotic. In truth, time *is* limited. All the remaining years have to be made to count.
2. *Recognize the need to mourn.* This time of life is one of loss and change. The result is painful feelings, and they need to be talked about.
3. *Take responsibility for your own life.* The traps are largely of your own making. What prevents you from making changes? Be responsible for who you are as well as for what you do. Evaluate weaknesses as well as strengths.
4. *Re-examine your values and goals.* What is really important to you? Are you living in accord with the values you claim to endorse? If your life is too work-oriented, consider broadening your range of interests and opening yourself to new ideas.
5. *Learn to substitute new sources of gratification for old.* Studies show that the most mentally healthy old people are those who have been able to adjust to changing circumstances; they are less compulsive and seemed freed from earlier social imperatives.
6. *Get in touch with your feelings.* When you push your feelings aside to avoid losing control, they end up controlling you. Learn to express your feelings; they are part of your inner life, your humanity.
7. *Respect your body.* The body and mind cannot be easily divided. Finding a pleasurable balance between work, relaxation, and play is an essential aspect of health.

We have heard and read a lot about the Type A personality.

This is the person who is excessively time-conscious, highly competitive, and inclined to push himself to the limits. Mayer quotes three directives designed to help the Type A personality change his pattern:

1) Things worth being are better than things worth having;
2) Live by the calendar rather than by the stopwatch; and
3) Consider any day that does not contain something of memory value—something related to beauty, love, growth, or novelty—a lost day. (p. 246)

It seems to me that these are worthy guidelines for all.

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Stress and the Corporate Woman 4

Marion Morse Wood, Ph.D.

For nearly a decade now the changing role of women in our society has been a focus of wide study. Of particular interest recently have been the implications of this evolution for women's psychological and physical well-being. Women are shedding traditional female role behaviors and moving into competitive and contact sports, politics, blue collar jobs, and virtually every area once the private domain of men, including that pinnacle of power and responsibility, corporate management. It appears logical to predict that the women who are choosing to work in these high-pressure environments will follow the male pattern, reacting with psychological and physiological symptoms of the phenomenon called "stress."

Implicit in this prediction, however, are two assumptions: 1) stress is caused by environments, and 2) it is questionable whether women have the stamina, dedication, and knowledge to make it in "the male world". This paper first will show there is no basis in fact for either of these assumptions, and then discuss why women will indeed experience stress in these new experiences. Factors responsible for producing stress in women, however, differ from those generally attributed to men's difficulties in coping within the same environments.

Essentially, women's problem is their conflict between genetic patterns and societal demands. As Giorgi (1978) points out, all women, including those entering male-dominated fields and those in traditional roles, are deeply entrenched in societal structures that inhibit and suppress them rather than enhance and support

them. While women will find ways to survive within these alien environments, the coping mechanisms themselves may be stress-provoking. Until the structures have been modified to permit "the fullest exploration of potential" for both men and women, Giorgi contends that the long and painful integration of the sexes with new criteria for relationships will continue to be extremely stressful.

Therefore, although this paper addresses the dilemma of women executives, the underlying thesis of role-change conflicts as the stress-producing factors apply across the full spectrum of women in society.

The Nature of Stress

Stress for human beings is a relatively new notion. Hans Selye (1975, 1976, 1977) introduced the concept just 40 years ago when he borrowed the word from physics to describe the body's response to excessive strain, whether it be of psychological or biological origin (Cherry, 1978). Essentially, Selye insightfully noted that a variety of human ailments, formerly viewed as separate phenomena, are related with a common set of symptoms which he defined as depleted of energy, listless, haggard, and drawn. He attributed these to the overloading of the human system with more stimuli or pressures than it is intended to carry (Giorgi, 1978).

Analysis of stress for human beings is considerably more complex, of course, than this systems explanation; it is beyond the scope of this chapter to discuss the complicated interaction of the multiple variables involved in human stress. The complexity is assumed with a simplistic definition offered to provide a common reference for discussion: stress, like emotions, is arousal. It is not caused by a particular environment, but is an inner response aroused by a pleasant or unpleasant situation in any environment.

While certain environments may hold a higher probability of stress provocation, not everyone living or working in them experiences the stress syndromes of heart ailments, ulcers, headaches, depression, or other chronic health problems. Many people are able to live long, happy, and healthy lives working under great pressure. The focus of the problem, then, appears to be in the individual, not in the task or the environment.

Further, the human system has feelings, and these are intricately related to stress. Specifically, as Giorgi (1978) explains, pressures involved with pleasant tasks are not stress-producing; only pressures involved with frustration result in pathology. Common ex-

amples of this distinction are a person's choosing to be a physician because of financial rewards rather than satisfaction gained from the work, or a woman deciding to be a wife and mother because it is the socially-accepted role when she knows she gains her greatest pleasure working in an experimental laboratory, office, or the political arena. In both these cases, the probability of stress will be greater than chance.

Stress is not a function of the environment per se, then, nor is it caused by an event or situation. Feelings an individual holds about an environment, event or situation at a particular time are strong determinants of whether he will experience stress. Under certain circumstances, one can tolerate more than others. In addition, the event or situation being tolerated is not necessarily hyperactivity. Stress is commonly linked with pressure of multiple activities, but it is just as likely to be aroused with feelings of uselessness as those of being overused. Frustration and agitation manifested by older persons who feel alienated and by children looking for something to do suggest that stress is as likely to result from an absence of stimuli as from an overload. Selye points out the human need for "the stabilizing support of constructive goals" (Cherry, 1978, p. 69). Lack of goals and direction leaves persons feeling useless, frustrated, and lonely, and this can be as stress-provoking as a barrage of excessive stimuli for the corporate executive.

Consider, for example, the woman with a high potential who is locked into a low-level job or is feeling trapped as a housewife and child-rearer. Her frustration from lack of goals, boredom with routine, irritation with constant demands on her, or feeling of detachment from the mainstream may manifest itself in obesity, ill temper, or any of many symptoms of stress.

Finally, and in summary, stress is inevitable. Neither man nor woman has been nor will be spared from it. It reflects conflict or tension, and is a primary motivator of behavior. In this respect, Selye views stress as either negative or positive (Cherry, 1978). When one is not motivated to achieve a task, he or she will experience negative stress, and the opposite is also the case. Negative stress is non-motivating, at least insofar as the task arousing the stress which permits (or motivates) a person to carry a tremendous overload without manifesting negative stress symptoms. It would follow, then, that persons in demanding careers like corporate management who obviously thrive on excessive pressures will more likely be buoyed to higher production and better health than fall victims to negative stress.

The Corporate Women

Today, approximately 1 percent of all top management and administrative posts in this country are held by women; 6 percent of middle management and 15 to 18 percent of entering management are women. The proportion at the top levels has held constant for a quarter of a century or more. Although an increasing number of women are now ascending through management ranks with aspirations for top corporate positions, it will be another 10 to 15 years at least before they, like their male peers, will achieve their goals. Also, like their male peers, only a handful of those who want to make it to the top actually will. While corporate women match their male counterparts in competence and capability, recent history has impacted the organization with a new demographic profile of women who are competing in the corporate hierarchy.

A Changing Profile

At this time of history, the higher up the corporate ladder women are, the less they are like their male peers in general profile. Top women executives today are older, have had less college, and receive significantly less compensation than do men in comparable positions. On average, these women now in their late forties or fifties may have attended college; they have worked their way up from a low entry position over a period of 15 to 20 years, or have inherited their responsibility from their husband or father; and, with rare exception, they receive less than $30,000 a year. A typical male colleague is in his forties, has a college degree, and his annual compensation is $50,000 or more (Heidrick & Struggles, Inc., 1977).

But the past ten years has witnessed a change in women's status. Through new legislation, pressure from women's groups, and radical shifts in public opinion, the image of corporate women has evolved to one closer to their male peers. Today women moving into management positions are in their twenties or thirties, have a minimum of four years of college, and are entering at the same level and salary as young male candidates. Hence, they too will be in their forties when and if they reach the top. Many women hold an M.B.A. degree. In the past seven years, enrollment of women students in the nation's graduate business programs has increased from less than 3 percent to ¼ or ⅓ of the class.

Common Dilemma

Though their entrance into management is at different points in history for these two sets of women, they both share the frustrations of adapting to an environment created for and by men, and therefore controlled by men. Although sheer strength of numbers is alleviating many problems the solo or token women encountered in earlier years, today the threat of numbers has brought about new problems for women. No longer can the one woman executive be accepted as an exception to the rule. Women are now becoming an integral part of management, and for most traditionally-oriented men, the changing role of women poses a deep conflict. They were not prepared for this change which affects their pattern of relationships.

Consider, for example, when a woman, motivated and trained to take on the responsibilities of management, encounters a male colleague whose perception of women leads him to expect traditional female role behavior. Unprepared for the assertiveness and self-confidence the woman manager manifests, he is incredulous and uncomfortable. To resolve this dissonance, he will probably react to what he expected (e.g., not take her seriously), become anxious and hostile, or avoid involvement altogether. Any of these behaviors arouses anxiety in the woman. As a consequence, what might have been productive, positive stress shared by both parties for creative results is converted into a negative, nonproductive stress situation.

Here, then, is the core of stress for the corporate woman—not the task-related pressures of management, but the tensions resulting from sex-role conflicts. Field studies of women executives are finding that women are pursuing management careers with exceptional enthusiasm (Wood, 1975; Wood, 1976; Wood & Greenfeld, 1978). Their positive attitudes should buoy them through the most pressure-packed day. When enjoying their work, women are capable of managing two lives, one professional and one domestic, with minimal and stimulating tension. When inhibited or suppressed in their work environment, however, stress-arousal is inevitable.

Attitudes toward the environment are major determinants of stress. In accepting environments, women perform as credibly as do their male counterparts (Osborn & Vicars, 1976; Wood & Greenfeld, 1976). In fact, no differences of any consequence to management are indicated between mental, motivational, or physical

capacities of men and women (Darley, 1976; Larwood, 1977; Larwood & Wood, 1977; Maccoby & Jacklin, 1974; Tresemer, 1976). The only critical difference affecting women's adaptation to task requirements of their new assignments is the wide disparity between men and women in perceptions and role expectations of women.

Despite the support and new challenge of meaningful work, then, women are not free from stress in the pursuit of new careers. While new choices are available, the choice to assume necessary role changes for success in more responsible positions is open only to women fortunate enough to be working in open, change-oriented organizations. Through special training for adjustment to their new roles, women are experiencing personal growth, increasing in self-confidence, and in general learning how to shed traditional female role behaviors and become more assertive, competitive, and independent. However, because few programs of this kind are yet offered to help society as a whole modify the perceptions and expectations of women's roles, women are changing faster than many men and the general public can adjust to them.

Women Subject to Social Demands

Many researchers have pointed out that the socialization process may be applied to explain most of the factors impeding the potential success of women. Society's distinct, culturally-defined values and roles for men and women set up external and internal barriers for women's progress toward equality (O'Leary, 1974; Larwood & Wood, 1977; Broverman, Vogel, Broverman, Clarkson & Rosenkrantz, 1972; Brief & Oliver, 1976; Hedges & Bemis, 1974; Keaveny, Jackson & Fossum, 1976; Maccoby & Jacklin, 1974; Megargee, 1969; Osborn & Vicars, 1976; Rosen & Jardee, 1974; Schein, 1975; Staines, Quinn & Shepard, 1976). From infancy, females are treated differently from males. They are indoctrinated with different sets of standards of behavior and different ways of evaluating their lives in terms of reward.

So long as women identify with their traditional roles, i.e., those defined by societal needs, they are commended for competency and ingenuity in problem solving. Paradoxically, their social roles have aided their development of essential management skills. In order to survive, let alone grow and achieve self-esteem, women have learned to be highly adaptable—possibly more adaptable than men. They have had to learn to shift effortlessly from one role

to another, to handle numerous and varied projects simultaneously, to coordinate plans and activities of multiple-member households and organizations: in short, women have always carried overloads and managed to live longer and healthier lives than men.

Adaption, then, is not a problem for women motivated to succeed in corporate management. Nor is overload of activity a challenge to their energy. Capability to adapt to particular demands and constraints will vary among individual women, of course, as it does among individual men. Where women managers are working within an accepting, adaptive environment, they are evidencing physical stamina to work long hours and the kind of dedication to the job at hand that demands social sacrifices. They are showing risk-taking ability, candor, high self-esteem, ambition, high energy level, and competitiveness (Wood, 1975; Wood, 1976).

More common, however, are resistant environments which inhibit and suppress women rather than enhance and support them. Women are continually confronted with conflicts about who they are and who they should be, an identity confusion built into women from very early years that is fed and encouraged in these kinds of environments. Women, of course, do not share these frustrations exclusively. Throughout the life cycle of human growth and development, humans are confronted with new frustrations at successive stages of life (Erikson, 1959; Sheehy, 1976) and stress is inevitable. But for women in the corporate world of men, the greatest source of stress at each stage is the continuing conflict between what they *can* and what they *must* be and do.

Prognosis for the Future

In the long term, women's ability to adjust quickly to changing situations will help them find a way to cope within the prevailing inhibitive and suppressive environment of the corporate world. However, this can result in only an extremely stressful situation for women and the men interacting with them. Clearly, both the internal barriers of attitudes toward sex roles and role change and the external barrier of stereotypic prejudgment of women must be broken down if women are to have the opportunity to demonstrate their skills and abilities.

Internally, women must learn to deal with socialized attitudes manifested in such anxieties as fear of failure, fear of success, low self-esteem, and role conflict. Special training programs must be expanded to reach more women. But tensions will only worsen so

long as we continue to encourage women to go after opportunities opening up to them, but fail to offer orientation to men and society as a whole regarding fading myths and new possibilities. Modifying the new parts of the system to adapt to the whole is not enough. Only when the total system undergoes change to accommodate the new parts can the underlying conflicts be resolved. Training programs must be developed for men, too.

All women today, including those in male-dominated fields and those in traditional roles, share the pressures of transition. Integrating the sexes, with new criteria for relationships, will be a long and painful evolution. The loneliness of the struggle up the corporate hierarchy perhaps makes the strain even greater for the striving woman executive. Through mutual understanding and conscious efforts to dispel old myths, men and women can work together toward modifying the social structure to one that permits "the fullest exploration of potential" for both.

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5 Exercise and Stress Reduction

Robert A. Wiswell, Ph.D.

Stress as it relates to physical activity is a subject about which relatively little is known today. However, what is known in the field indicates that there are important relationships between stress and physical activity. Interesting research projects have furnished insights and stimulated efforts to learn more about these stress-exercise interactions.

Sources of Physiological Stress

One's perception of an event as unpleasant can cause as much —if not more—physiological damage to the body than the visible physical effects. This stress factor has been explored in several studies (Bronson & Elaftheriou, 1955, 1965; Christian, 1971; Christian & Davis, 1964; Henry, 1971; Henry, Ely, & Stephens, 1971; Henry, Meehan, & Stephens, 1967; Price, 1969; Rose, 1972; Rose & Holaday, 1970; and Sassenrath, 1970).

Bronson and Eleftheriou (1965) studied the adrenal response of three groups of laboratory mice exposed to fighting animals in varying circumstances. In that study mice trained by reinforcement to fight were exposed to three other groups of mice. The first group was partitioned off from fighters in the next cage 15 minutes a day from the duration of the study. The second group was exposed to a fighter 10 minutes with the partition and 5 minutes of actual exposure without partition. The third group was exactly the same as Group 2, but after the fifth day the partition was not removed.

Physiological examinations that followed these exposures revealed that the first group (exposed by looking only) showed absolutely no change in adrenal response or blood pressure. With the second group (fighter in cage 15 minutes per day) there were no observable internal changes, but an increase in infection. But in the case of the third group (5 days of being bitten, the remaining time just viewing the fighters in a neighboring cage), the changes were dramatic. The majority of this group showed a considerable negative change in adrenal responsiveness.

What this study may indicate is that perception of an event as negative can cause greater physiological damage to the individual than the event itself. How does this information relate to industry, or more specifically, to retirement?

We know that most people perceive growing old as bad; they are very concerned about growing old and feel it is not a positive experience. That apprehension about growing old may, as with the mice in the study, cause physiological decline.

A study done with fire fighters (Hellwarth, 1978) relates to this kind of stressful apprehension. Beginning with the hypothesis that those who perceived retirement positively would be healthier than those who viewed it negatively, we were surprised instead to find that was not the case. The individuals who were fittest were those who were most negative about old age.

Why this result? We suggest that the positive-minded people had a subconscious fear of being incapacitated which was stressful. On the other hand, the people most afraid of retirement did something about that fear: maintained better health, had a more appropriate diet, and exercised.

Nutrition and Stress

Interaction between nutrition and stress is another significant factor to consider. Calories are calories, independent of any nutritional basis. If one needs calories for energy, sugar is as good a source as any other. If one needs nutrients, on the other hand, sugar is not a good source. The link between simple sugars and heart disease has been refuted as many times as it has been supported.

For an older population, however, sugars are not good foods if they replace other nutrient-based nourishment. The point to emphasize is, not that the sugar itself can be connected to the other major health problems, but that balance of foods is essential and

that as one ages or one is chronically confronted by stressful situations, the need for high quality, low energy foods is essential.

Perhaps the best study that concerns dietary balance is one in which rats were fed single foods (Hegsted & Ausman, 1975). One group was fed commercial dog food (balanced-meal diet) for 13 weeks, others received French fries, orange juice, spinach, hamburger steak, skim milk, whole pasteurized milk, enriched breakfast cereals, and enriched white bread. Rat development was monitored to observe effects on growth of the animals given the different foods.

The results showed clearly the importance of dietary balance. Rats fed only whole milk became pale and anemic (poor iron source). Rats fed skim milk alone developed cataracts and became blind. Those fed hamburger became severely paralyzed. The most alarming finding was that all the animals on spinach died within two days, even sooner than if they had been fasting, due to high levels of oxalate which caused kidney failure. What this study shows is that food balance is extremely important.

Food requirement may shift as we grow older. What we eat when young may not be an adequate diet when older. Studies with laboratory animals have shown that the easiest way to prolong life is to underfeed (McCay, 1952). We have found also that percentage of protein is important. Although increase of dietary protein to 35 percent of total intake in young animals has increased life expectancy, the same increase of protein with older animals may result in earlier death. Apparently the need for protein changes; in other words, the ability to utilize protein or the mechanism by which we digest proteins may change to a point where percentage of total intake should be adjusted downward.

The role exercise plays in relation to stress is still unclear, but evidence indicates that exercise has a positive effect. We know, for example, that mild activity prior to a meal depresses appetite. We know also that moderate activity chronically increases caloric intake. Extended, high-level activity increases intake of food, but not to a degree where there is weight gain. A lumberjack working eight hours a day might consume 4200 calories—a very large intake for someone who was not a lumberjack, but that hard physical work requires a great caloric expenditure.

The Role of Exercise in Stress

A classic study regarding physical exercise was done in 1953 by Morris, Heady, Raffle, Roberts, and Parks, who compared conductors (ticket-takers) on buses with drivers. Both groups were rela-

tively matched (lived in the same areas, had similar incomes, and so forth). The conductors, however, had one-third less heart disease than the drivers; the activity of walking up and down collecting tickets perhaps gave them protection. Morris then asked how much exercise would be needed to achieve that protection, and in 1956 studied industrial workers and distances walked to work (Morris & Crawford, 1960). He found that those workers who walked one to two miles daily had about a 30 percent reduction in frequency of heart disease when compared to the group that had short distances to walk.

Studies also have been conducted with animals to determine how long they will exercise spontaneously (Goodrick, 1977). It was found that when animals are put in cages that contain exercise wheels by themselves they will exercise until they are about 9 months old, or the equivalent of perhaps 18 human years; then they seem to stop exercising. Perhaps there is some internal mouse decision at 9 months that exercise is no longer needed. Paired same-sex mice on the wheel will exercise for about 15 to 17 months, equal to about 35 human years. In the latter case, the social aspect has become important; the animals will exercise longer when there is a partner. However, there still seems to be a point in these socialized captive animals at which need to exercise ceases.

The relationship between exercise and diet was considered in a follow-up study by Morris, Marr, and Clayton (1977). Examining a sample of 354 people, several of whom had suffered coronary disease, he tried to discover the best single predictor of heart disease through review and analysis of the data.

From this twenty-year longitudinal report, Morris isolated two significant factors to predict who was most likely to have heart disease. The first factor was that those who had greater energy expenditure had a lesser rate of heart disease, again supporting the theory that activity is good. The second factor was the indication that high intake of dietary fiber (roughage) in the diet seemed a better predictor than any other physiological variable and that dietary fiber may have some important effect on longevity or risk of heart disease. Why is that? Some people suggest that roughage in the diet stimulates gall-bladder release of bile, which is high in cholesterol. Bile seems to be bound by the roughage and therefore some can be eliminated through the bowel. I do not know whether there is any proof, but there is a relationship between fiber intake and reduction of diverticulosis, intestinal cancer, and improved irregularity. So we see an interplay between these parameters—dietary fiber and mild-to-moderate exercise. We need to be aware

of that relationship in any type of program we may plan for ourselves.

Why exercise for stress reduction? Are there different types of exercise? There is one type of exercise that becomes extremely important with respect to disorders of low-back syndrome: flexibility exercise. When your work involves a lot of sitting or standing all day, you start to feel muscle tension. The muscular support system of the spine, when used constantly, has a tendency to shorten, thus binding the spine. Changes may take place in connective tissue around the spine. Fluid is also lost in the disc over time, and the result will be a reduction in height. A second consequence is neuromuscular tension caused by vertabral compression on spinal nerves. In this regard we find that exercise of high intensity may increase neuromuscular tension if it is not followed by stretching.

Aging may also affect the integrity of the spine and muscular support system. With increased age there will be a shortening of connective tissue due to dehydration as well as to changes in the elastic components. As that shortening occurs there is an effect on the joints. General flexion occurs at all joints. When the connective tissue change is compounded by greater neuromuscular tension, a greater risk of severe problems will occur.

Stretching is an important type of exercise well suited for reduction of neuromuscular stress in the back. Stretching is part of yoga and many other types of exercise. There are two types of flexibility or stretching exercises: static and dynamic. Dynamic flexibility is a bouncing stretch; static stretching is a very slow stretch. Which is better? There is the same degree of mobility improvement in static stretching as in dynamic. There are, however, risks of pulling muscles or ligaments with dynamic stretching. How many days a week are needed to show flexibility improvement? Research has actually shown that six days seems to be optimal.

How convenient is that for those who spend most of their days in offices? There are ways to stretch while in the office. These exercises, called "chair exercises," have become popular today.

In working with exercise or mobility, always start with small muscle groups and work into larger ones (hands and arms before legs and trunk).

What role does flexibility have in reducing stress? It may have some effect on nerves in the spine. Nerve pressures can occur at small levels during neuromuscular tension. With pressure on the nerves, pain radiates down the arm, across the shoulder, and there is much tension in the neck. Through regular stretching we can reduce a lot of that nervous discomfort.

What types of programs can be used, and why? Certain benefits can be derived from aerobic exercise (endurance-type exercise). Morgan (1973), working with psychiatric patients, found marked improvement in psychological states: decrease in depression and reduction in anxiety. A San Diego psychiatrist who wrote the book *The Joy of Running* (Kostrubala, 1976) consults with his patients while jogging; he has concluded that with certain psychiatric disorders running has been a successful intervention therapy.

Accelerated heart rate is characteristic in aerobic exercise. Almost all exercise programs should be done with heart rate in mind, and with older persons in particular it is important not to exceed certain ranges. When heart rate is appropriately stimulated, improvement in circulatory system follows. It is the change in cardiovascular function that may be the key to the effectiveness of running in reducing psychosocial stress. The effect is mediated through the hormonal control which is seemingly reset after exercise training. In other words, chronic endurance exercise may cause lower secretion rates of certain stress substances in the blood such as adrenalin and cortisol.

There is another way to reduce stress in addition to regular endurance exercise, depending on our definition of fitness. If the correct definition of fitness is "ability to respond to the stresses of everyday life," we could do two things. First, we could become stronger and therefore reduce through good cognitive control the stresses themselves. Working with the brain to reduce what seems to be a stressful situation, we can cope with it, or be "fit." Exercises such as yoga and TM (transcendental meditation) help reduce what we perceive as stress. Another thing we can do is called "relaxation training." In relaxation training we allow time to cognitively feel ourselves loosening the muscles.

In summary, it appears that psychosocial stimuli can cause stress. Perceived stress can in turn accelerate physiological decline. In stressful situations, appropriate nutrition is necessary, and at times exercise can be used as a means of reducing the magnitude of sensory inputs. Flexibility exercise can be used to alleviate neuromuscular tension, as can low-intensity walking (deVries & Adams, 1972). Endurance exercise may also be effective in reducing stress. Exercise programs that develop cognitive control, such as TM, yoga, progressive relaxation, etc., are also viable methods to reduce stress.

In conclusion, exercise requirements increase as we age. The effects are many, and include improved neuromuscular and cardiovascular function as well as the ability to respond to stress.

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Appendix

Stress in Corporate Life: A Panel Presentation

Thomas M. Drucker

We at Xerox are trying to wrestle with our own priorities as people in business and industry. It is very important that we treat our customers right; it is very important that we treat our employees right.

How does this relate to stress and some of the questions raised? Some of the answers rest in a couple of changes taking place in the world of work today. One already mentioned has to do with changing value systems.

Values have to do with a certain degree of honesty, with a balance of life, and with where the work fits in. These values say that being honest is O.K., that being clear about realities is important, and that learning and personal growth should be understood, accepted, and respected. Those values already exist in the world of work; they come through our doors when we hire people, they come into our board rooms and conference rooms, and they are found on our production lines.

Another issue facing us and the firms we represent is the effective harnessing of human resources, keeping somewhere in the foreground both the goals of the corporation and those of the individuals. Think about what happens when anger, anxiety, and depression are brought into the work place and exacerbated. There is no simple solution. The issue of equity and choices for people about their own lives (given the economic environment we are in today) is very difficult; how do you keep the human factor in the work equation?

Work can be a learning experience. If you take seriously the dignity of a human being and the fact that individuals can learn at work, it helps. Although that may sound like old-fashioned behavioral science repackaged in glossy, trendy terms, we must pay attention to the underlying value system.

My real belief, however, is that the true answer lies somewhere else. It lies in people like ourselves and others in our firms thinking very seriously about jobs we ask people to do and systems we have for those jobs. Called the "performance system," it is the environment in which we operate.

If we want an individual to do something, we have to reward that person correctly. Absenteeism, short and long-term disability, and general productivity—all indicators of stressful environment—tend to follow a desirable direction: when productivity goes up, absenteeism goes down; when people are treated with dignity and have a chance to learn and participate, some of the problems are solved.

The real key to solving stress problems is to correctly structure the work environment—not just to implement change for change's sake, but so the consequences of people's behaviors are understood. Given clear feedback, they will be helped enormously to cope with themselves in a rational environment. Our environment today is irrational enough, and causes much stress. In a production line, in an administrative organization, in a selling and servicing organization, one of the key requirements is to get that organization and its management information systems clear, cogent, and precise, thereby reducing the unnecessary stresses interjected by demands of business.

Henry Gluck

"Stress in Corporate Life" is such a complicated subject that perhaps the easiest way to analyze and make observations on the subject would be through personalizing it. Most of my experience with stress accompanied the growth of my business.

My partner and I built a rather large business. By the time I was 42 years of age we had 43 operating divisions and 10,000 employees; at this point I decided to retire. I have now been retired a little over five years, and during these five years I have had time to consider the effects of stress on my own life and changes it caused me to make.

It is my observation that we live in a society of "haves" and "have-nots." Mass communication today has made everyone aware that there is a better life out there. That awareness places great economic pressure on everyone—not only the executive, but also the rest of the family, which in turn results in additional pressure on the executive. Therefore, we ask ourselves continually, "What price success?" Is there any way of solving this problem?

The combination of talent and strength that helps make a successful executive also contributes substantially to personal and vocational

stress. Obviously, the things that built success were motivation and ego. How does one fulfill these drives? How do you make them go away? Do you really want them to disappear?

Perhaps the answer to those questions depends on how well the executive knows himself. Knowing one's self takes much longer for some people than for others, and it may never come. A major problem for all of us is the desire to be remembered for what we can least do best. We constantly compete with other people and their talents. We seek to do things which, if we took time and thought, we are probably not prepared to do—certainly not as well as some of those others. So the essence of this stress problem is that we probably never really define our goals as we should for our own best interests.

Somewhere early in his career the executive has never been forced to sit down and say, "What is it that I really want? Do I want financial independence? Do I want, every single morning, an option about what I want to do with my life? Do I want to be president? Where am I going?" He never really evaluates his current circumstances with respect to his goal. To remain in power, the ambitious executive's tactics are mostly political.

A real problem in terms of stress for most executives in large corporations relates to the substantial equity they hold. Financial independence and financial security come late in their careers. This means that they have to experience a growth process within the business. This business process has been compared to the hydromatic or automatic transmission of a car, moving from second to third very smoothly, or to the old gear train, where there is occasionally a pause before going into second gear or a need to move into reverse once in a while. Tremendous pressures are brought to bear moving through the "normal" transitions of business.

If everything is going well for one, stress or worry is minor. However things do not always move smoothly. *The Peter Principle,* which sold many copies and many people thought had merit, is probably grossly exaggerated. The truth is that people are often promoted—not to their level of incompetency—but to their level of anxiety and depression. It is not the incompetence that causes inability to perform, but rather the stress brought about through other circumstances.

Zmira Goodman

I was asked to make a presentation on the role of women in corporations and how stress affects them. I believe it is time we changed an attitude which has prevailed these many years—that women are not subject to the stress-inducing diseases that men are. This may have

been true when women were few in the corporate structure, but with changing times and woman's increased role, we find women are becoming as prone as men are to the diseases most closely linked with stress.

My own observation has been that women have added pressures in dealing with a demanding job because, although they have family responsibilities and obligations, they are expected to cope as if these obligations do not exist. Whereas men can transfer such obligations to the homemaker who in the traditional system was supposed to help with these problems, employed women have no such advantage. To illustrate: in a working couple's life the woman is expected to take time off due to a child's sickness, whereas the man would not dream of doing so. When a man's job calls for his transfer or promotion, the wife will be expected to uproot, notwithstanding her own career. Whereas even if a working woman's career is important, she will seldom ask her husband—or expect him—to change his job if she should be recommended for transfer to another location.

An additional stress is that women, being relatively new to corporate life, are more threatening to the men working under them, so in addition to a demanding job they also have to cope with unrest and lack of cooperation. They also receive less "team" support from their colleagues.

The educational system which prepared women who are today in their mid-fifties for their careers did not set forth realistic objectives for them. Women were all expected to consider marriage and family as a first priority. A job, no matter how interesting or important, was to be in second place. This may be changing now, but women who are in the present corporate structures are still suffering from the fact that their goals were not defined in formative years in the same way as those of their male counterparts.

Women are still confronted with stereotyped thinking—for example, they are not expected to be ambitious. If a woman tries to climb up the corporate ladder, she is usually frowned upon and categorized in most unflattering terms. In dealing with work problems, a man can use his wife as a sounding board and unload his worries at home in the evening. It is less acceptable for a woman to do so, and thus may add to situations of stress for that woman.

Most companies are simply not prepared for the home problems of women executives. Traditionally, corporations have never had to cope with the male executive's home situation unless it translates into on-the-job drinking or other symptoms directly related to his relationship with his peers. However, a woman who carries family responsibilities is not expected, by and large, to have family emergencies and other immediate problems affect her performance; thus, her stress is greater.

A problem that confronts both men and women executives is mandatory retirement. This is a new area of stress for women, yet men already have learned to plan for future retirement from the time they start

their careers. We hope that mandatory retirement eventually will be eliminated in corporations. Until such time, we must prepare women to cope with that problem through long-range planning at the time they start their corporate careers.

Comments: Personal Management of Stress

James E. Birren, Ph.D.

Individuals or organisms under stress react with complicated and often paradoxical responses. To understand how to personally manage stress, some background discussion of these effects will be useful. What are the physiological signs of stress? What are the behavioral signs of stress? What sustains stress?

Physiological signs of stress are shown in change of appetite or in level of physical activity. Under stress, the appetite moves up or down; you will either eat more food or less food. You will be more physically active or less physically active. You will either want more sleep or less sleep. The reason for this is uncertain. I can't resolve the paradox of why these things tend to go in one direction or another. What are the indicators of physiological stress in you? Which way do your appetites move? Are you more interested or less interested in sex? Are you more interested or less interested in drinking?

One of the generalized reactions to stress is depression, in which case the appetite tends to go down. Inferred from this, very often, is the conclusion that the organism is not aroused. The organism is, in fact, physiologically highly aroused. This arousal is expressed as low appetite, low sex interest, or disturbance of sleep. If a person feels confidence in the ability to control stress, the appetite moves up; a lack of that confidence to control means movement of appetite in the opposite direction.

The first phase of stress is aggression—adrenalin is secreted; you are in an attack phase. However, if at a point you think you have lost control, there is a shift to the other side—the depressed side.

What are the behavioral signs of stress? Irritability is one; you are like a firecracker with a very short fuse, ready to explode at someone. Restlessness is another; things do not seem to move fast enough for you. You do not respond to your environment; sometimes you do not listen to answers to questions you ask. This can be like listening to a telephone message through background noise, or being in an airport control tower with too many planes waiting to land at the same moment; you receive too much information to filter out the main signal.

What sustains stress? Guilt is one factor, and leads to a feeling of ambivalence when unresolved things are carried over from day to day.

Hostility is another. You are very angry but cannot or do not express it, either to a senior person in the establishment with whom you are worried about the consequences or to a subordinate (both examples of hostility or denial).

There are people who are very hostile in their talk, but who never take action. Theirs is a passive hostility; they are the "chronic complainers." These people are under high stress.

Resolving conflicting attractions is stressful; this can be a situation where a choice must be made between two equally good job offers, and it can be just as difficult as having a choice between two negative situations. In conflicting attraction and conflicting avoidance there are stresses, though the former is more pleasant. In conflicting attraction your pace will be speeded up, you assume control, and will be more aggressive; you think you are going to win. Nevertheless, you are under stress; there is an adrenalin response to this kind of situation.

Creative procrastination or "When do you win with procrastination?" is a concept studied at the University of Chicago with successful middle-aged men and women in professional careers. Some were principals of large high schools. They recognized that, while procrastination can be over-used, it is a useful strategy for control of stressful situations. In certain disciplinary problems, for example, letting a problem "ripen" a little might be preferable to immediate intervention.

Goal clarity is another factor to consider: if you have diffused goals you are more likely to be stressed than if they were clearly set; being specific helps. And there is the ability to express feelings related to frustration, especially since there is a notion that feelings are to be controlled and not expressed. Particularly as one moves toward middle age it is less appropriate to express emotions than when younger. As a result of this norm, more time is spent under stress. In the executive position, you are not supposed to have these feelings.

What strategies can be used to handle these chronic stress situations? Talking things out seems a good technique; somehow a drainage of tension occurs which seems to help. There is also the notion that we are stronger emotionally some days than others, and therefore can take more stress on certain days. Another thing that seems to work is the encounter group.

Under stress one's pattern of thought changes, moving heavily toward convergent thinking. Convergent thinking is that which says there is one and only one solution to a problem. Divergent thinking, on the other hand, takes place when one is relaxed and able to choose from alternate hypotheses. A strategy for recognizing stress may be to ask yourself whether you are looking for single solutions or generating alternatives.

On getting stress feedback from physiological or behavioral signs, the first question to ask is, "What is causing the stress?" Try to get

some clarification of your goals, and then perhaps take action. On the other hand, perhaps you will see that the things that are causing the stress do not relate to you. Going through the process (maybe admitting you are under stress and talking about it to someone else) cools you down enough to reduce that high state of physiological arousal—to keep the brain relaxed rather than response-prone.

I want to end these comments on a note of hope and faith. Faith has been credited with stress-resistant qualities. Experiments with rats deprived of hope resulted in death, with hypothalmic changes measured through autopsy. Lack of hope made the rats give up the will to live, yet if they had some experience with survival, they would have no longer been vulnerable. Belief has an effect against stress. If you believe things are going to improve, you will be better off than if you did not believe that.